



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): **J. Cree, et al.** Examiner: **J. Pierce**
Application No.: **09/491,721 Conf. 8978** Group Art: **1771**
Filing Date: **January 27, 2000** Docket No. **P-31,202A USA**
Title: **TEAR RESISTANT ELASTIC LAMINATE AND
METHOD OF FORMING**

DECLARATION OF STEPHEN D. BRUCE UNDER 37 C.F.R. 132

I, Stephen D. Bruce, declare and state that:

1. I am a co-inventor in the above-referenced patent application. I hold a B.S. degree in Plastics Engineering from Lowell Technology Institute (1973). I have been employed by Tredegar, Inc., and its predecessor of interest, the assignee of the application, since 1973 holding various positions as Research and Development Engineer, Quality Manager, and Manufacturing Manager. I am currently servicing as a Research Advisor. I have extensive experience and familiarity with the development, manufacturing, and processing of nonwoven webs and laminates made therefrom.

2. I am familiar with the prosecution history of the above-mentioned patent application and understand that claims 1 – 13 of this application are, in general, directed to a tear resistant laminate having an elastic polymeric film disposed between and bonded to two nonwoven webs of laterally consolidated, non-elastic thermoplastic fibers.

3. In addition, I am aware that the Patent Office has rejected the pending claims of the present application as being anticipated by US 5,336,545 (Morman) and/or made obvious by Morman in view of US Re 35,206 (Hassenboehler) or in view of US 5,789,065 (Haffner). I have reviewed these patents and understand their contents.
4. I have tested and/or supervised the testing of the nonwoven tensile experiments described below. The results of this testing are shown in Figures 1 – 4 and are described in under Paragraph 6 – Test Results. The test results indicate that laterally consolidated nonwoven webs provide for superior bonding as compared to necked nonwoven webs.
5. Test Procedures:
 - a. Three samples of commercially available nonwoven webbing were provided. The webbing was made of spun bound polypropylene and was thermally bonded via bonding points. The bonding points were formed on a solid anvil and have a repeating diamond-shaped pattern.
 - b. The first sample is a control and was not subjected to lateral consolidation or necking.
 - c. The second sample was laterally consolidated according to the process described in the present application. In particular, the sample was strained approximately 80% and sustained a decrease in width of approximately 30%.
 - d. The third sample was cold necked according to a process similar to the one described in Morman. In particular, the sample was subjected to a tensioning force at room temperature which strained the sample approximately 80% and decreased the sample's width by approximately 30%.

- e. A random area from each sample containing nine bonding points was inspected under a microscope to determine the effect of the strain on the bonding points.

6. Test Results:

- a. Figure 1 shows the first sample which was not subjected to necking or consolidation. The diamond-shaped bond points, which are numbered 0 – 8, appear to be intact and symmetrical.
- b. Figure 2 shows the second sample which was subjected to lateral consolidation. The diamond-shaped bond points show some elongation, but appear to be relatively intact.
- c. Figure 3 shows the third sample which was subjected to cold necking. The diamond-shaped bond points, which are numbered 0 – 8, are severely distorted or completely destroyed.
- d. Figure 4 shows a detail of the third sample. The original bond points numbered 1 and 2 are completely destroyed.

- 7. These test results indicate that integrity of the bonding points are largely maintained during a lateral consolidation process, but are compromised by a cold necking process. The compromised bonding points, in turn, would adversely affect the tensile strength of the necked webbing.



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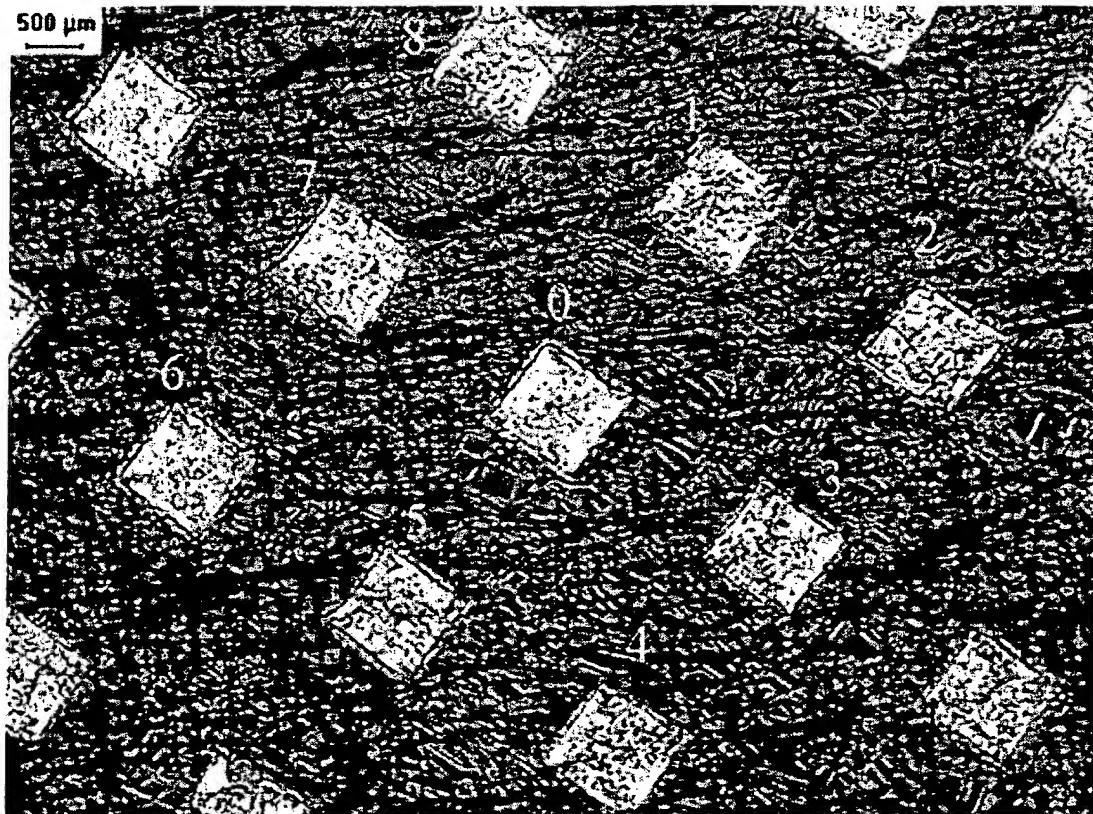


Figure 1



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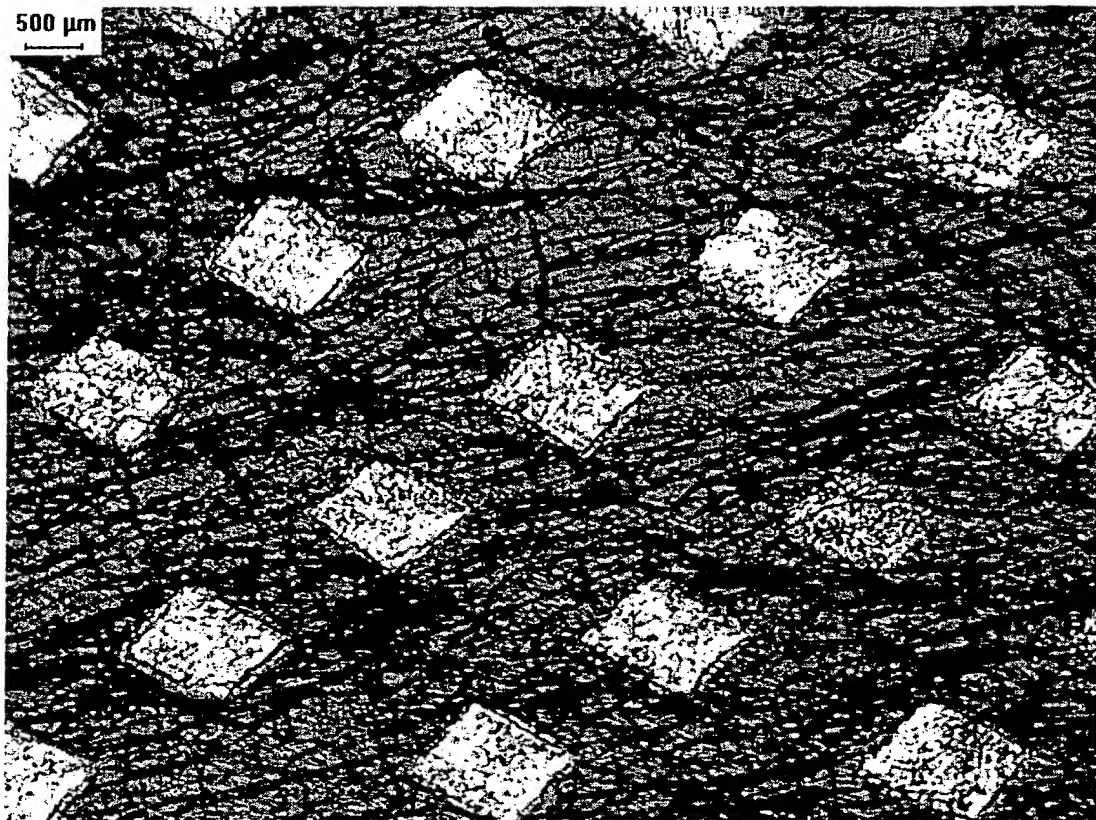


Figure 2



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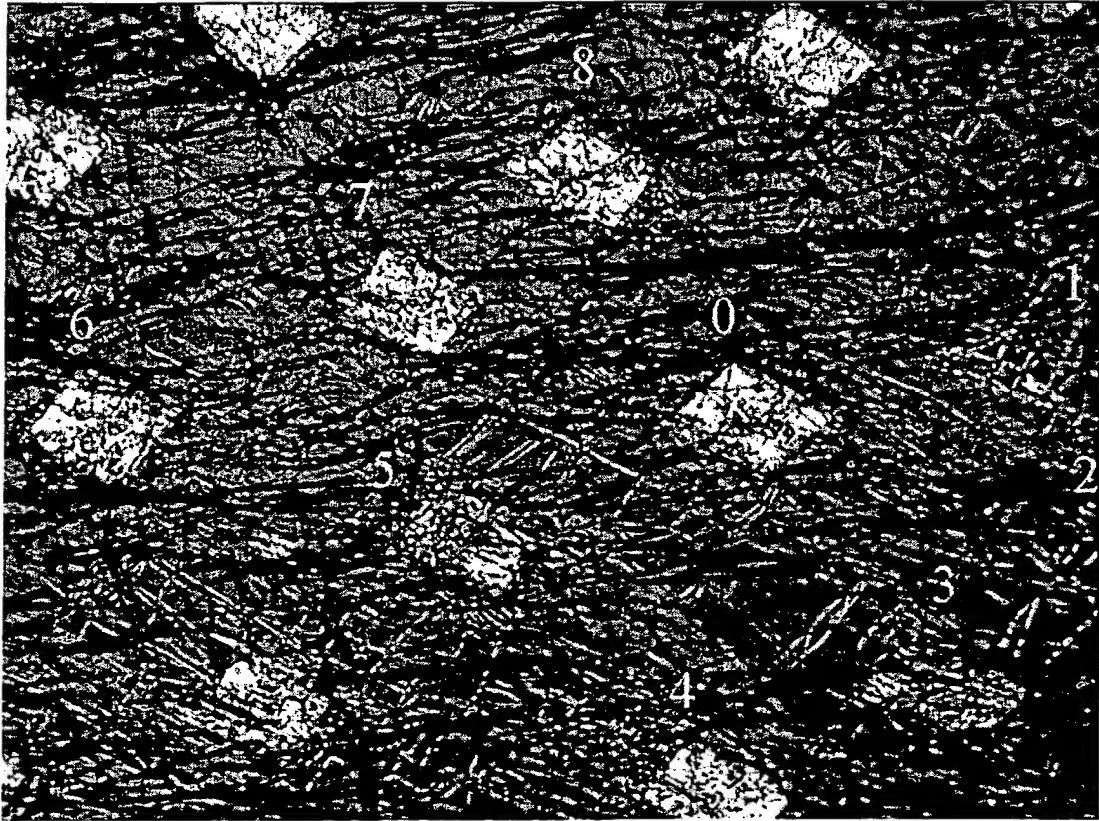


Figure 3



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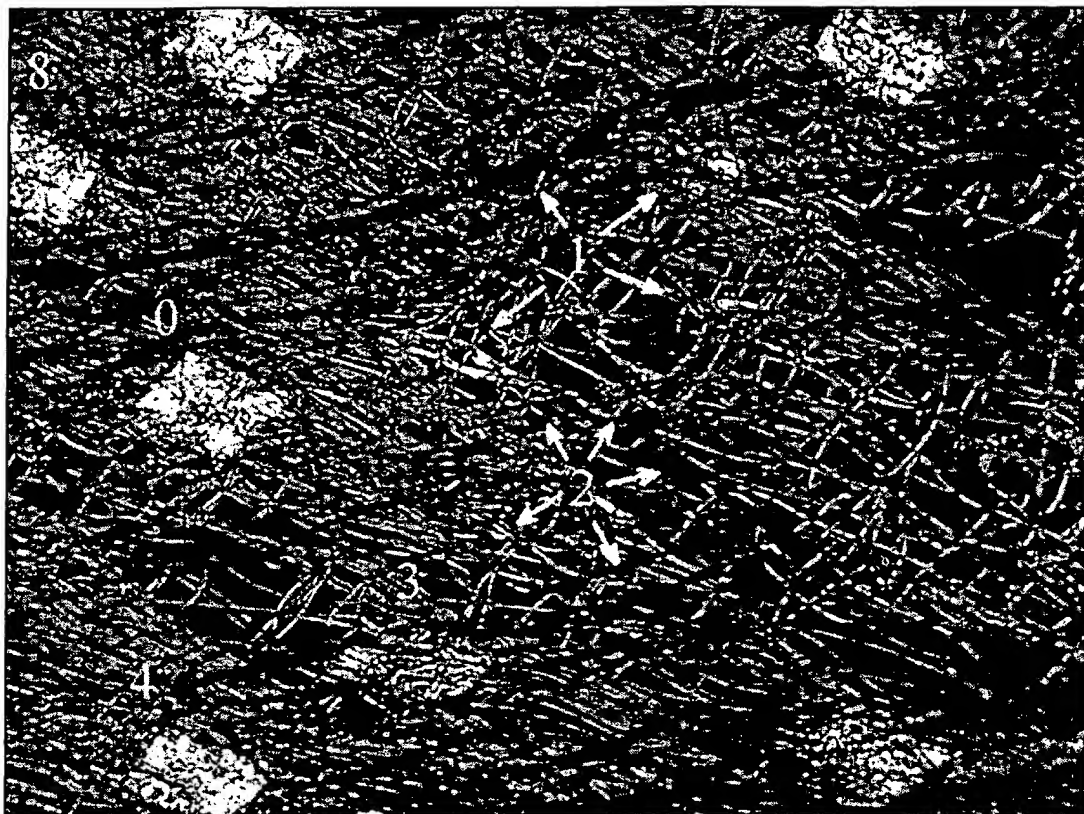


Figure 4

8. I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Stephen D Bruce

Stephen D. Bruce

March 21, 2006

Date